

IN THE CLAIMS:

The status of each claim that has been introduced in the above-referenced application is identified in the ensuing listing of the claims. This listing of the claims replaces all previously submitted claims listings.

1. (Previously presented) A conductive structure for connecting a contact pad of a semiconductor device and a contact pad of a substrate, comprising:
a female member configured to be secured to the contact pad of one of the semiconductor device and the substrate, said female member having:
a jacket with an aperture configured to be located over the contact pad; and
a conductive center partially filling said aperture with an upper portion of said aperture being open; and
a male member configured to be secured to the corresponding contact pad of the other of the substrate and the semiconductor device, said male member having:
a jacket having an end configured complementarily to said upper portion of said aperture of said jacket of said female member, said jacket having an aperture configured to be located over the corresponding contact pad; and
a conductive center substantially filling said aperture.
2. (Original) The conductive structure of claim 1, wherein said aperture of said jacket of said female member is configured to partially limit insertion of said male member thereinto.
3. (Withdrawn) The conductive structure of claim 2, wherein said aperture comprises an inner ledge configured to prevent further insertion of said male member thereinto.
4. (Original) The conductive structure of claim 2, wherein said aperture tapers inwardly.

5. (Original) The conductive structure of claim 1, wherein an outer surface of said jacket of said male member is configured to partially limit insertion of said male member into said aperture of said jacket of said female member.

6. (Original) The conductive structure of claim 5, wherein said outer surface is tapered.

7. (Original) The conductive structure of claim 6, wherein said outer surface has a frustoconical configuration.

8. (Original) The conductive structure of claim 5, wherein said jacket of said male member has an end portion with a smaller periphery than a base portion of said jacket.

9. (Withdrawn) The conductive structure of claim 8, wherein said outer surface comprises an outer ledge between said end portion and said base portion of said jacket.

10. (Original) The conductive structure of claim 1, wherein at least one of said jackets comprises a photopolymer.

11. (Original) The conductive structure of claim 10, wherein said at least one of said jackets comprises a plurality of superimposed, contiguous, mutually adhered layers of said photopolymer.

12. (Original) The conductive structure of claim 1, wherein said aperture of said jacket of said female member is configured to facilitate alignment of said male member and said female member.

13. (Original) The conductive structure of claim 12, wherein said aperture tapers inwardly.

14. (Original) The conductive structure of claim 1, wherein an outer surface of said jacket of said male member is configured to facilitate alignment of said male member and said female member.

15. (Original) The conductive structure of claim 14, wherein said outer surface tapers outward from said end to a base portion thereof.

16. (Original) The conductive structure of claim 15, wherein said outer surface has a frustoconical configuration.

17. (Original) The conductive structure of claim 1, wherein at least one of said conductive centers comprises at least partially unconsolidated conductive material.

18. (Previously presented) The conductive structure of claim 17, wherein said at least partially unconsolidated conductive material is at least partially uncured conductive resin.

19. (Original) The conductive structure of claim 18, wherein said at least partially uncured conductive resin is uncured conductive resin.

20. (Original) The conductive structure of claim 1, wherein at least one of said conductive centers comprises a thermoplastic conductive elastomer.

21. (Original) The conductive structure of claim 1, wherein at least one of said conductive centers comprises a solder, a metal, or a metal alloy.

22. (Original) A semiconductor device component, comprising:
a substrate having at least one contact pad exposed at a surface thereof;

a first member of a conductive structure secured to said at least one contact pad, said first member including a jacket having an aperture through the length thereof and a conductive center in said aperture, said first member being configured complementarily to a second member of said conductive structure secured to a corresponding contact pad of another substrate of another semiconductor device component.

23. (Original) The semiconductor device component of claim 22, wherein said substrate comprises a flip-chip type semiconductor device.

24. (Original) The semiconductor device component of claim 23, wherein said flip-chip type semiconductor device comprises a flip chip die.

25. (Original) The semiconductor device component of claim 23, wherein said flip-chip type semiconductor device comprises a ball grid array package.

26. (Previously presented) The semiconductor device component of claim 22, wherein said substrate comprises a chip-scale package.

27. (Original) The semiconductor device component of claim 22, wherein said substrate comprises a carrier substrate.

28. (Original) The semiconductor device component of claim 22, wherein said jacket and said aperture are configured to contain said conductive center over said at least one contact pad.

29. (Original) The semiconductor device component of claim 22, wherein said conductive center substantially fills said aperture.

30. (Original) The semiconductor device component of claim 29, wherein said first member is configured to be received by an aperture formed in said second member.

31. (Original) The semiconductor device component of claim 29, wherein an outer surface of said jacket has a smaller periphery at an end thereof than at a base portion thereof.

32. (Withdrawn) The semiconductor device component of claim 31, wherein said outer surface includes an outer ledge located between said end and said base portion.

33. (Original) The semiconductor device component of claim 31, wherein said outer surface tapers outwardly from said end to said base portion.

34. (Original) The semiconductor device component of claim 33, wherein said outer surface has a frustoconical configuration.

35. (Original) The semiconductor device component of claim 22, wherein said conductive center partially fills said aperture.

36. (Original) The semiconductor device component of claim 35, wherein said aperture is configured to receive at least an end of said second member.

37. (Original) The semiconductor device component of claim 35, wherein an upper portion of said aperture has a larger periphery than a base portion of said aperture.

38. (Withdrawn) The semiconductor device component of claim 37, wherein an internal ledge is disposed around at least a portion of a wall of said aperture between said upper portion and said base portion.

39. (Original) The semiconductor device component of claim 37, wherein said aperture tapers inwardly from said upper portion to said base portion.

40. (Original) The semiconductor device component of claim 22, wherein said conductive center comprises an at least partially unconsolidated conductive material.

41. (Original) The semiconductor device component of claim 40, wherein said at least partially unconsolidated conductive material is an at least partially uncured conductive resin.

42. (Original) The semiconductor device component of claim 41, wherein said at least partially uncured conductive resin is an uncured conductive resin.

43. (Original) The semiconductor device component of claim 22, wherein said conductive center comprises a thermoplastic conductive elastomer.

44. (Original) The semiconductor device component of claim 22, wherein said conductive center comprises a solder, a metal, or a metal alloy.

45. (Original) The semiconductor device component of claim 22, wherein said first member comprises a photopolymer.

46. (Previously presented) The semiconductor device component of claim 45, wherein said first member comprises a plurality of superimposed, contiguous, mutually adhered layers of said photopolymer.

47. (Previously presented) A semiconductor device assembly, comprising: at least one semiconductor device having a surface with at least one contact pad exposed thereto;

a substrate having a surface with at least one at least one contact pad exposed thereto, said at least one contact pad located correspondingly to said at least one contact pad of said at least one semiconductor device; and

a conductive structure secured to said at least one contact pad of said at least one semiconductor device and to said at least one contact pad of said substrate, said conductive structure having:

a first member secured to one of said at least one semiconductor device and said substrate, said first member including a jacket having an aperture therethrough and a conductive center disposed in said aperture, said conductive center in communication with said at least one contact pad; and

a second member secured to another of said at least one semiconductor device and said substrate, said second member located correspondingly to said first member, said second member including a jacket having an aperture therethrough and a conductive center disposed in said aperture, said conductive center in communication with said at least one contact pad, said second member configured to be interconnected with said first member.

48. (Original) The semiconductor device assembly of claim 47, wherein one member of said first member and said second member has a receptacle configured to receive at least an end of the other member of said second member and said first member.

49. (Original) The semiconductor device assembly of claim 48, wherein said aperture of said one member has an upper portion with a smaller periphery than a base portion thereof.

50. (Withdrawn) The semiconductor device assembly of claim 49, wherein said aperture includes an inner ledge disposed between said upper portion and said base portion.

51. (Original) The semiconductor device assembly of claim 49, wherein at least a portion of a wall of said aperture tapers inwardly toward said base portion.

52. (Original) The semiconductor device assembly of claim 49, wherein said aperture is configured to limit a distance the other member is inserted into said receptacle.

53. (Previously presented) The semiconductor device assembly of claim 48, wherein said jacket of the other member has an outer surface with a smaller periphery at said end than at a base portion thereof.

54. (Withdrawn) The semiconductor device assembly of claim 53, wherein said outer surface includes an outer ledge disposed between said end and said base portion.

55. (Original) The semiconductor device assembly of claim 53, wherein said outer surface tapers outwardly from said end to said base portion.

56. (Original) The semiconductor device assembly of claim 55, wherein said outer surface has a frustoconical configuration.

57. (Original) The semiconductor device assembly of claim 47, wherein said conductive center of at least one of said first and second members comprises an at least partially unconsolidated conductive material.

58. (Original) The semiconductor device assembly of claim 57, wherein said at least partially unconsolidated conductive material is an at least partially uncured conductive resin.

59. (Original) The semiconductor device assembly of claim 58, wherein said at least partially uncured conductive resin is an uncured conductive resin.

60. (Original) The semiconductor device assembly of claim 47, wherein said conductive center of at least one of said first and second members comprises a thermoplastic conductive elastomer.

61. (Original) The semiconductor device assembly of claim 47, wherein said conductive center of at least one of said first and second members comprises a solder, a metal, or a metal alloy.

62. (Original) The semiconductor device assembly of claim 47, wherein at least one member of said first and second members comprises a photopolymer.

63. (Previously presented) The semiconductor device assembly of claim 62, wherein said at least one member comprises a plurality of superimposed, contiguous, mutually adhered layers of said photopolymer.

64. (Original) The semiconductor device assembly of claim 47, wherein said at least one semiconductor device comprises a flip-chip type semiconductor device.

65. (Currently amended) The semiconductor device assembly of claim 64, wherein said flip-chip type semiconductor device is a flip-chip semiconductor die with bond pads arranged in an array on a surface thereof.

66. (Original) The semiconductor device assembly of claim 64, wherein said flip-chip type semiconductor device is a ball grid array package.

67. (Previously presented) The semiconductor device assembly of claim 47, wherein said at least one semiconductor device comprises a chip-scale package.

68. (Original) The semiconductor device assembly of claim 47, wherein said substrate comprises a carrier substrate.

69. (Original) The semiconductor device assembly of claim 47, wherein said substrate comprises another semiconductor device.

70-141 (Canceled)